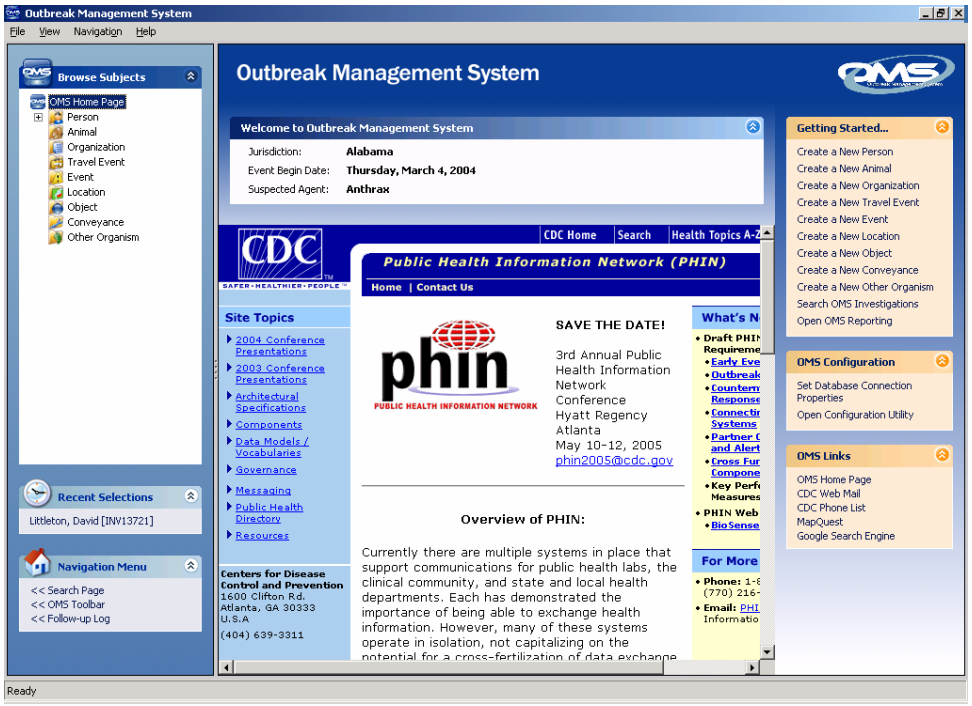
Featuring Outbreak Management System 1.1.53

THE OUTBREAK MANAGEMENT SYSTEM (OMS) IS THE PHIN OUTBREAK MANAGEMENT COMPONENT AND A KEY ELEMENT OF CDC'S OVERALL OUTBREAK MANAGEMENT STRATEGY. ITS JOB IS TO SUPPORT STATE AND LOCAL PUBLIC HEALTH AGENCIES, THE CDC DIRECTOR'S EMERGENCY OPERATIONS CENTER (DEOC), FIELD RESPONSE TEAMS, AND PROGRAM STAFF WITH THE COLLECTION AND ANALYSIS OF DATA AS THEY WORK TO IDENTIFY AND CONTAIN OUTBREAKS RESULTING FROM PUBLIC HEALTH EVENTS AND BIOTERRORISM.



Outbreak Management System

OMS provides a suite of applications to support configuration, building custom forms, data import, data entry, and analysis:

OMS CONFIGURATION UTILITY

Supports tailoring and customization of individual OMS workstations. Using the Configuration Utility, you can manage the various properties that define the OMS configuration, such as database connections, supported subjects, relationship types, and search parameters.

OMS CONFIGURATION MANAGER

Supports tailoring and customization of an OMS configuration that can be applied to one or more workstations. Using Configuration Manager, you can manage vocabularies; import and group question sets; and create and apply these configurations to the OMS workstations you use to collect outbreak data.

OMS ADMINISTRATION TOOL

Supports the backup and restoration of the OMS

database, as well as the installation of database add-ins and configuration packages.

OMS Supplemental Data Manager (SDM)

Supports the development of extensible data entry forms used to capture information specific to the needs of an outbreak investigation. Using SDM, you can create custom data entry forms and associated them with standardized elements of the OMS.

OMS Import Data Wizard

Supports the import of Characteristics, Investigation, and Supplemental Data information from a Microsoft Excel spreadsheet source document.

OMS Desktop Client

Supports data entry using standardized and extensible forms for capturing characteristic, investigation, exposure contact, relationship and follow-up information.

OMS Analysis Reporting

Supports basic analysis, visualization, and reporting functions. Using OMS Analysis, you can access existing views and reports, as well as create new views and reports.

Standardized Data Entry Features

OMS provides you the ability to capture and manage data related to

- Cases and investigations
- Contacts, exposures and relationships.

Conceptually, OMS is organized into two elements:

- Core application
- Extensible forms

The core application provides standardized data entry forms for capturing characteristic, investigation, exposure contact and relationship information. The fields presented on these core application forms are based on PHIN vocabulary standards.

In addition to these standardized forms, OMS supports dynamic configurations by means of the *Supplemental Data* forms. Supplemental Data provides you the ability to create and display custom data collection forms you use to capture information relevant to the specific concerns of the present outbreak.

Data Linkages

OMS enables you to create linkages between subjects to indicate some form of affiliation or association. These linkages may arise by virtue of exposure, or by the plain fact of association or proximity. Linkages arising from exposure are tracked using the contact tracing features of OMS. Linkages due to association or proximity are known collectively as *relationships*. By assigning these linkages between subjects, you can track the types of affiliations or associations that are associated with an outbreak. This information aids your analysis as you work to determine the outbreak's source and spread.

Analysis Features

The standard configuration of OMS includes *OMS Analysis*. It is based on Microsoft Access and provides you a quick and easy method to analyze OMS data. OMS Analysis enables you to create forms, reports and charts based on the available data views. In addition to the sample views provided in the standard configuration, you can create custom data views using simple join operations on the tables provided in the OMS Analysis database.

Open Analysis Architecture

By virtue of its open analysis architecture, you can also interface with commonly used analysis, visualization and

reporting tools, such as SPSS, SAS and Epi Info. OMS is bundled with Epi Info 2000 and provides an integrated method by which you can access the Epi Info Analysis module through OMS Analysis.

Together with these tools, you can generate reports on

- Person information
- Investigations
- Organizations
- Contact tracing
- Exposures and relationships.

Configuration and Deployment Features

You can configure OMS to support the collection of outbreak data related to virtually any biological, chemical, or radiological agent. OMS provides you the ability to use a library of pre-developed, ready-to-deploy configurations containing agent-specific vocabularies and data entry forms. Once you apply these configurations to one or more workstations, you can immediately begin the work of collecting and analyzing outbreak data.

In addition, OMS provides you tools to import demographic and investigation information collected through a commonly available spreadsheet application. This eliminates the need for duplicate data entry in the event you have already begun to collect outbreak data prior to deploying OMS.

OMS supports a variety of deployment options. These options include client-server configurations using a centralized database, a single machine with a locally installed database, as well as multiple single machines with locally installed databases. This supports deployment at multiple jurisdictional levels with the roll-up of data to a central level.

Configuration Management

OMS provides management tools that enable you to quickly apply agent-specific OMS configurations and deploy them to OMS workstations for immediate use. With it, you can rapidly deploy the library of CDC-developed OMS configurations, tailor these existing setups to suit your specific requirements, or create entirely new configurations to meet novel and emerging threats. You can

- Customize vocabularies
- Import and organize custom data entry forms
- Create and deploy configurations to OMS workstations.

Vocabularies refer to those values available for user selection in the OMS core application (for example, options on drop-down lists).

By managing these options, you can create or reuse configurations to address the specific requirements of an outbreak. You can edit and add items associated with a variety of vocabulary options and provides you with only those options relevant to the agent associated with the outbreak. You can also mine existing OMS databases for custom data entry forms appropriate to the outbreak at hand, and package these options into a self-contained configuration you apply to OMS workstations. These features ensure consistency across a deployment and support accurate data collection and analysis.

Data Import

In many instances, you begin collecting outbreak information using commonly-available spreadsheet and database applications. Using OMS, you can use Microsoft Excel spreadsheets as a source of records for import into the OMS. OMS provides you the ability to map columns in a source Excel spreadsheet to fields in the OMS database and import this existing data into OMS. In this way, you can

quickly populate the OMS database with any case information you might have collected prior to deploying OMS, eliminating the need for duplicate data entry.

REPLICATION

While you can install OMS on workstations at your fixed place of business, a primary scenario involves deployment at the scene of a public health or bioterrorism event by means of a networked system of laptops. Once deployed in this configuration, epidemiologists and program staff can use OMS to capture outbreak information in the field.

When required, you can disconnect from the network and use the software "off line." Upon reconnecting to the network, OMS can synchronize the information collected in the field with a local database, the local headquarters, or an OMS server at CDC headquarters. This is known as database *replication*.

Using the OMS database replication feature, you can enable data synchronization between field-deployed systems, as well as synchronization of data back to a central database.

CONNECTIVITY OPTIONS

OMS can support virtually any type of connectivity option, including of standard dialup modems and high-speed options such as DSL and cable modems.

OMS 1.1.53 Features

This latest release of the Outbreak Management System provides increased functionality and usability throughout the application for capturing data, improving the ability of the healthcare professional to collect and manage data in the event of an outbreak. OMS 1.1.53 improves on the previous versions with the following new features:

Data Import

Easily map spreadsheet data into the OMS core and supplemental databases.

Questionnaire Printing

Render OMS standard and custom fields as blank forms for manual data collection.

Supplemental Data Usability Enhancements

Simpler and more intuitive access to investigation-specific questionnaires.

Analysis Data Views

More accessible with a series of views that mirror the data on the tabular forms within the application.

Third-Party Analysis Integration

Enhancements to the analysis database ensure that it is simpler to integrate with popular tools such as SAS, Epi Info, and Microsoft Access.

Wizard-Based Replication Configuration

Graphical, replication wizard greatly simplifies the database replication set-up process to facilitate data synchronization of remote clients with a central location.

An Effective Tool for Outbreak Investigations

These, plus numerous other usability and functionality enhancements found throughout the application, have significantly improved the utility of OMS as an outbreak investigation tool.

Hardware and Software Requirements

OMS requires specific hardware and software configurations. These configurations vary and depend on a variety of factors, such as the deployment options you choose to employ.

Client Computers

Processor

Minimum – Pentium III, 1.2 GHz; Recommended – Pentium 4, 2.4 GHz or greater

Memory

Minimum – 256 MB memory; Recommended – 512 MB to 1GB

Hard Drive Space

Initial Installation – 500 MB

Operating System

Windows 2000 Professional or Windows XP Professional

OMS Database

Microsoft SQL Server 2000 (Enterprise, Standard, Workstation, and Personal editions) or the Microsoft SQL Server 2000 Desktop Engine (MSDE 2000)

Analysis and Reporting

Microsoft Access (2000 or greater)

Servers

Processor

Pentium 4, 2.0 GHz or greater

Memory

Minimum – 512 MB ; Recommended – 1GB

Hard Drive Space

Initial Installation – 500 MB

Operating System

Windows 2000 Server, Windows 2000 Advanced Server, Windows 2003 Server, or Windows 2003 Advanced Server

OMS Database

Microsoft SQL Server 2000 (Enterprise, Standard, Workstation, and Personal editions) or the Microsoft SQL Server 2000 Desktop Engine (MSDE 2000)

Analysis and Reporting

Microsoft Access 2000 (or greater)

Centers for Disease Control and Prevention • 1600 Clifton Rd, Atlanta, GA 30333, U.S.A •
http://www.cdc.gov/phin/software-solutions/oms/index.html